

Abstract

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A gerotor mechanism is used to guide the rotation of a turntable having a Reuleaux triangle shape. The mechanism includes a gerotor having three lobes; the gerotor guide has a guide profile including four recesses for receiving the lobes of the gerotor. Rotation is governed by a 4:3 hypocycloid function. The profiles of the gerotor and the gerotor guide are expanded uniformly from an original hypocycloid pattern so that rotation of the turntable results in execution of the hypocycloid function while retaining the gerotor in controlled contact with the profile of the gerotor guide. Substantially planar bearing surfaces may be used at the interface of (a) the turntable and the gerotor guide, (b) the gerotor and the gerotor guide, or (c) the gerotor and the underlying support surface. The gerotor guide may be part of a cabinet or built into a kitchen countertop.

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